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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/987,380	12/09/1997	MASAO INOUE	Q48500	6198
7590 05/13/2008 SUGHRUE MION ZINN MACPEAK & SEAS 2100 PENNSYLVANIA AVENUE NW WASHINGTON, DC 200373202				
EXAMINER				
WANG, SHENGJUN				
ART UNIT		PAPER NUMBER		
1617				
MAIL DATE		DELIVERY MODE		
05/13/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

08/987,380

**Applicant(s)**

INOUE ET AL.

**Examiner**

Shengjun Wang

**Art Unit**

1617

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-7,10,11,13 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,10,11,13,19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on February 4, 2008 has been entered.
2. As initial matter, claims 16-18 are withdrawn from further consideration as drawn to non-elected invention. The claims have been examined insofar as they read on the elected invention.

### ***Claims Rejections 35 U.S.C. - 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5 -7, 10, 11, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tocker (WO 91/10362 of record) in view of Burger et al. (WO 93/04017, CA 2115998 is an English equivalent) and Kogler et al. (US Patent 4,772,490, of record).

Tocker teaches a pesticidal granule composition coated with polyurethane. See, particularly, page 2, line 23-31. The polyols employed has at least two hydroxyl groups and the polyisocyanate has at least one isocyanate substituent (-NCO). See, particularly. Page 4, lines 1-

30. The amount of polyisocyanate employed is about 1-20% by weight, and the reaction temperature is at ambient temperature or above. The coating procedure can be carried out stepwise. See, particularly, page 5, line 5-22. Tocker further teaches that, as required by some practice, e.g., slow release of the active component, monomers containing more isocyanate or hydroxyl group may be employed to increase the degree of cross-link in polyurethane. See, particularly, page 10, lines 16-24. The polyisocyanate employed therein are, for example, *triisocyanate toluene*, 1, 5-naphthalene diisocyanate, etc. the polyols employed therein are, for example, glycerin, glycol or other polyhydric alcohols. See, particularly, page 4, lines 3-30.

Tocker does not teach expressly the employment of the particular procedure herein for making the coating wherein the polyols and polyisocyanate are mixed before the application to the granules.

However, Burger et al. teach that the particular procedure herein, i.e., mixing the polyol and polyisocyanate before applying them to the granules, is known for coating agrochemical granules for forming multiple layers of polyurethane coating. The coating made by such procedure are known to be with sufficient homogeneity of the individual particle coating, and be physically stable, resistant to frost and provide sustained release of active ingredients. See, particularly, the abstract, page 1, the examples and the claims. Kogler et al. also teaches method of coating granular agrochemicals with polyurethane for controlled release of active ingredients, wherein polyisocyanate and polyols are premixed. See, particularly, the abstract, examples 2-5 in columns 5 and 6. The coating's properties may be manipulated by using different polyols and different isocyanates. See, particularly, column 2, line 49 bridging column 3, line 29.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to modify the pesticidal granules of Tocker by mixing the polyols and polyisocyanates first followed by coating the mixture to the granules.

A person of ordinary skill in the art would have been motivated to make such modification because the modification will lead to a stable, controlled releasing coating. Claim 19, which particularly recites the employment of polyisocyanate having tri-isocyanate groups and polyol having tri hydroxyl group, would have been obvious because the prior art teach the employment of a variety of polyisocyanate and polyol, including those with tri isocyanate groups and tri hydroxyl groups. Further, the amount of those multiple functional monomers are known to be a parameter that affects the properties of polyurethane. As it is well-settled that optimization of result affecting parameters would be within the skill of artisan.

Regarding claims 5, 7, 10,11 and 13 which recited water absorption ratio of the polyurethane is not more than 5%, it is noted that the reference and the instant application are employing the essentially the same polyols and polyisocyanates. See, pages 13-14 in the specification and page 4 in Tocker. Therefore, the polyurethane coating of Tocker is reasonably expected to have the same water absorption ratio as claimed herein. Further, the optimization the properties of the coating accordingly by using different isocyanate or polyol is considered within the skill of artisan, as discussed by Tocker et al. (cross link degree) and Kolger et al. (different polyol and isocyanate).

***Response to the Arguments***

Applicants' remarks submitted February 4, 2008 have been fully considered, but are not persuasive for reasons set forth above, in the examiner's answer mailed 1/16/2007 and the decision by the Board of Patent Appeals and Interferences issued December 3, 2007.

Particularly, the Board states:

The Supreme Court has recently emphasized that "the [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 1739. Moreover, an "[e]xpress suggestion to substitute one equivalent for another need not be present to render such substitution obvious." *In re Fout*, 675 F.2d 297, 301 (CCPA 1982).

In *KSR*, the Court rejected a rigid application of the teaching-suggestion-motivation test. *KSR*, 127 S.Ct. at 1739. The Court recognized that it is often necessary to look at the interrelated teachings of multiple references; the effects of demands of the marketplace; and the background knowledge possessed by a person of ordinary skill, "all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed." *Id.* at 1740-41. Moreover, the "obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, or motivation, or by overemphasis on then importance of published articles and explicit content of issued patents." *Id.* at 1741.

Claim 19 would have been obvious to one of ordinary skill in the art for reasons discussed above, particularly, in view of the teachings disclosed by the cited references and the general knowledge available to a skilled artisan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang whose telephone number is (571) 272-0632. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 8 am to 2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shengjun Wang/  
Primary Examiner, Art Unit 1617